CLAIMS

1. A method for maintaining end-to-end synchronization on a telecommunications connection transmitting data in frames substantially in real time and using synchronized end-to-end encryption, wherein an initialization vector value corresponding to a received frame and used in decrypting the frame is defined on the basis of the number of frames received at the receiving end of the telecommunications connection, and wherein at least a part of the telecommunications connection is a packet-switched connection, in which case the reproduction delay of the data to be transmitted can be increased by adding one or more extra frames to the frame string being transmitted, the method comprising the steps of:

marking a frame to be added to increase the reproduction delay as an extra frame; and

counting only the frames not marked as extra frames in the number of received frames.

2. A method as claimed in claim 1, wherein the reproduction delay is increased in the receiving end of the packet-switched connection.

3. A method as claimed in claim 1, wherein the packet-switched connection uses an Internet protocol.

4. A method as claimed in claim 1, wherein the telecommunications connection belongs to the TETRA system.

5. A method as claimed in claim 1, wherein the extra frame added to increase the reproduction delay comprises a stolen speech block, and said marking is done in the stolen speech block.

6. A method as claimed in claims 1, wherein the encryption is done using a key stream segment generated using the initialization vector.

7. An arrangement for maintaining end-to-end synchronization on a telecommunications connection transmitting data in frames substantially in real time and using end-to-end encryption, wherein at least a part of the telecom-

munications connection is a packet-switched connection, in which case the reproduction delay of the data to be transmitted can be increased by adding one or more extra frames to the frame string being transmitted, the arrangement comprising:

means for defining on the basis of the number of received frames an initialization vector value corresponding to a frame received at the receiving end of the telecommunications connection and used in decrypting the frame; and

means for adjusting the reproduction delay that are arranged to mark the frame to be added to increase the reproduction delay as an extra frame, whereby the means for defining the initialization vector value are arranged to count only the frames not marked as extra frames in the number of received frames.

8. An arrangement as claimed in claim 7, wherein the means for adjusting the reproduction delay reside in the receiving end of the packet-switched connection.

9. An arrangement as claimed in claim 7, wherein the packet-switched connection uses an Internet protocol.

10. An arrangement as claimed in claim 7, wherein the telecommunications connection belongs to the TETRA system.

11. An arrangement as claimed in claim 7, wherein the extra frame added to increase the reproduction delay comprises a stolen speech block, and the means for adjusting the reproduction delay are arranged to do said marking in the stolen speech block.

12. An arrangement as claimed in claim 7, wherein the encryption is done using a key stream segment generated using the initialization vector.

13. A network element for maintaining end-to-end synchronization on a telecommunications connection transmitting data in frames substantially in real time and using end-to-end encryption, wherein an initialization vector value corresponding to a received frame and used in decrypting the frame is

defined on the basis of the number of frames received at the receiving end of the telecommunications connection, and wherein at least a part of the telecommunications connection is a packet-switched connection, in which case the network element is arranged to increase when necessary the reproduction delay of the data to be transmitted by adding one or more extra frames to the frame string being transmitted, and to mark the frame added to increase the reproduction delay as an extra frame.

14. A network element as claimed in claim 13, wherein the network element resides in the receiving end of the packet-switched connection.

15. A network element as claimed in claim 13, wherein the extra frame added to increase the reproduction delay comprises a stolen speech block, and the network element is arranged to do said marking in the stolen speech block.

16. A network element as claimed in claim 13, wherein the packet-switched connection uses an Internet protocol.

17. A network element as claimed in claim 13, wherein the telecommunications connection belongs to the TETRA system.

18. A network element as claimed in claim 13, wherein the encryption is done using a key stream segment generated using the initialization vector.

19. A network element as claimed in claim 17 or 18, wherein the network element is a TETRA dispatcher workstation.

20. A network element as claimed in claim 13, wherein the network element is a base station.

21. A network element as claimed in claim 13, wherein the network element is a media gateway.

22. A network element that uses a telecommunications connection transmitting data in frames substantially in real time and using a synchronized end-to-end encryption, wherein at least a part of the telecommunications connection is a packet-switched connection, in which case the reproduction delay of the data to be transmitted can be increased by adding one or more extra frames to the frame string being transmitted,

the network element being arranged to define on the basis of the number of received frames an initialization vector value corresponding to a received frame and used in decrypting the frame, and

when the frames added to increase the reproduction delay are marked as extra frames, to count in the number of received frames only the frames that are not marked as extra frames.

23. A network element as claimed in claim 22, wherein the extra frame added to increase the reproduction delay comprises a stolen speech block, and said marking is in the stolen speech block.

24. A network element as claimed in claim 22, wherein the packet-switched connection uses an Internet protocol.

25. A network element as claimed in claim 22, wherein the telecommunications connection belongs to the TETRA system.

26. A network element as claimed in claim 22, wherein the encryption is done using a key stream segment generated using the initialization vector.

27. A network element as claimed in claim 25 or 26, wherein the network element is a TETRA dispatcher workstation.

28. A network element as claimed in claim 22, wherein the network element is a base station.

29. A network element as claimed in claim 22, wherein the network element is a mobile station.